Uniformly washable hollow-fiber membrane module

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This hollow-fiber membrane module is constituted of (A) a filtration element comprising (1) filtration screens made of hollow-fiber membrane fabrics, (2) an upper part fixing member and a lower end fixing member for resp. fixing the upper ends and the lower ends of the screens while keeping these ends open, (3) a water introducing pipe for communicating the open parts of the upper and the lower ends, (4) an aeration means installed in the lower part fixing member, (5) an air flow route having openings in the lower part fixing member and communicated with an air supply port formed in a side face of a rim part of the upper part fixing member, and (6) a partitioning member communicating the openings of the air flow route and the aeration means and partitioning a region including the air flow route and the lower part fixing member where the lower ends of the hollow-fiber membranes are opened for forming a lower water chamber; (B) an upper water chamber formed in the upper open side of the hollow-fiber membranes by inserting the filtration element (A) in a container and communicated with the lower water chamber through the water introducing pipe and with a treated water outlet; and (C) a water treatment chamber sepd. from the upper water chamber and the lower water chamber, contg. the hollow-fiber membranes, and communicated with a raw water supply port and an air outlet. The upper part fixing member is so installed as to open the air supply port toward the outside of the container. The hollow-fiber membrane module is for filtering river waters, lake waters, water for industrial use, wastewater with high turbidity, and advanced treatment of water filtered through sand. Air for scrubbing is evenly and reliably supplied to the filtration screens to uniformly and efficiently wash the screens and maintain high filtration efficiency for a long duration.

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